THE ROLE OF LOCAL GOVERNMENTS AND TRANSNATIONAL ENVIRONMENTAL NETWORKS IN ADDRESSING CLIMATE CHANGE

by

Benjamin Liadsky

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Abstract

This paper argues that transnational environmental networks consisting of local governments are critical to fostering local action as well as offering leadership globally to the challenge of climate change. Unfortunately, from a governance perspective, the state has continued to receive most of the scholarly attention within the International Relations discipline. Yet, local governments working and mobilizing as a collective force in the form of organized networks demonstrates that municipalities recognize that they too have a role to play. Transnational networks such as ICLEI and the C40 Cities, among others, are leading the way in promoting local government action as well as a multilevel vision of climate governance globally. As increasing amounts of greenhouse gases arise from growing urban areas and state inaction continues, municipalities must be willing to lead. Going forward, these networks will challenge the dominant discourse around climate change governance, while municipalities move to the forefront of that debate.

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Abbreviations

BARC	-	Building Adaptive & Resilient Communities
C40	-	C40 Cities
cCCR	-	carbon*n* Cities Climate Registry
CCI	-	Clinton Climate Initiative
CCP	-	Cities for Climate Protection
CDC	-	Connecting Delta Cities
CDP	-	Carbon Disclosure Project
CO_2eq	-	Carbon dioxide equivalent
COP	-	Conference of the Parties
EEBRP	-	Energy Efficiency Building Retrofit Program
FCM	-	Federation of Canadian Municipalities
GCC	-	GreenClimateCities
GHG	-	Greenhouse gas
GMF	-	Green Municipal Fund
GPC	-	Global Protocol for Community Scale Emissions
ICLEI	-	ICLEI – Local Governments for Sustainability
IEA	-	International Energy Agency
IPCC	-	Intergovernmental Panel on Climate Change
IULA	-	International Union of Local Authorities
OECD	-	Organisation for Economic Co-operation and Development
PCP	-	Partners for Climate Protection
PPM	-	Parts per million
UCCRN	-	Urban Climate Change Research Network
UHI	-	Urban Heat Island
UNEP	-	United Nations Environment Programme
UNFCCC	-	United Nations Framework Convention on Climate Change
WMCCC	-	World Mayors Council on Climate Change

Timeline

The following is a brief timeline of events related to scientific, state-driven, and local developments of climate change as a global issue.

1827 – Greenhouse effect discovered by Joseph Fourier
1896 – Greenhouse effect first investigated quantitatively by Svante Arrhenius
1900 – Estimated that 10% of world's population located in urban areas
1958 – Mauna Loa Observatory established by the National Oceanic and Atmospheric Administration of the U.S. in Hawaii to measure carbon dioxide in the atmosphere. First reading shows CO_2 levels at 316 parts per million (ppm)

1976 – HABITAT I, first major UN conference on urban areas held in Vancouver, Canada
1979 – The first World Climate Change Conference is held in Geneva, Switzerland
1980s – Carbon dioxide in the atmosphere measures 350 ppm, the threshold considered safe by climate scientists
1987 – *Our Common Future* report (A.k.a. the Brundtlund Report), definition of "sustainable development" & Chapter 9 identifying "Urban Challenges"
1988 – Intergovernmental Panel on Climate Change (IPCC) established by the UN
1988 – The City of Toronto hosts the second international conference on climate change
1990 – IPCC publishes *First Assessment Report*
1990 – Toronto, Canada becomes first government to set emissions reduction target
1990 – ICLEI, an international network of municipalities working toward environmental sustainability, established
1990 – Climate Alliance of European Cities with Indigenous Rainforest Peoples is established representing more than 1,600 local governments from 20 European countries
1990 – Energie-Cités, a European network of municipalities concerned with energy use, established
1991-1993 – Urban CO_2 Reduction Project launched by ICLEI & funded by US EPA, City of Toronto, & private foundations
1992 – First Earth Summit held in Rio de Janeiro, Brazil & development of Agenda 21 (a voluntary set of principles and steps for states to follow for sustainable development), while ICLEI establishes parallel Local Agenda 21 (LA21) for local governments to voluntarily subscribe to
1992 – 154 countries sign the UNFCCC established at Rio conference (comes into force in 1994)
1993 – Cities for Climate Protection (CCP) campaign launched by ICLEI
1994 – Aalborg Charter signed by local European governments in Denmark whereby signatories agree that municipalities and their citizens play an important role in developing sustainable communities
1994 – Federation of Canadian Municipalities (FCM) 20% Club program launched to help local municipalities in Canada to reduce their GHG emissions
1996 – HABITAT II Conference in Istanbul, Turkey
1997-2012 – 150 countries sign the Kyoto Protocol on Climate Change (binding on 38 industrialized countries)
1997 – Academic Journal, *Local Environment*, publishes first article for which the topic was cities and climate change
1999 – The FCM's 20% Club and ICLEI's CCP program merged to create the Partners for Climate Protection (PCP) program run jointly by ICLEI and the FCM
2001 – U.S. President George W. Bush announces the U.S. withdrawal from the Kyoto Protocol

2002 – World Summit on Sustainable Development in Johannesburg, South Africa
2004 – Aalborg +10 is held to build on the 1994 Aalborg Charter and establishes 10 commitments for European cities to sign on to
2005 – C40 Cities, an international network of megacities concerned about climate change established in London, UK
2005 – World Mayors Council on Climate Change (WMCCC) established in December by Yorikane Masumoto, Mayor of the City of Kyoto
2005 – Kyoto Protocol becomes law after Russia ratifies pushing ratification of Annex 1 countries over 55% mark
2007 – Estimated that 50% of world's population located in cities
2007 – Urban Climate Change Research Network (UCCRN), which focuses on the analysis of climate change mitigation from an urban perspective, is founded
2007 – IPCC publishes its *Fourth Assessment Report*
2008 – Asian Cities Climate Change Resilience Network (ACCCRN) launched
2008 – Future Cities, A European local government network, launched
2008 – UN-Habitat launces *Cities and Climate Change Initiative* to help local governments in developing countries deal with adapting to climate change
2007 – Local Government Climate Roadmap launched in Bali, Indonesia at COP 13 by ICLEI with the goal of giving local governments a voice at international climate change negotiations
2008 – Second annual OECD Roundtable of Mayors and Ministers occurs in Milan and focuses on "Competitive Cities and Climate Change"
2009 – COP 15 & Copenhagen Accord signed by 114 states
2010 – The first World Congress on Cities and Adaptation to Climate Change (renamed in 2012 as the Global Forum on Urban Resilience and Adaptation) is held in Bonn, Germany and organized by ICLEI, the WMCCC and the City of Bonn
2012 – Rio+20 Conference on Sustainable Development held in Rio de Janeiro, Brazil
2013 – Mauna Loa Observatory in Hawaii records CO_2 in the atmosphere at more than 400 ppm for the first time
2013 – Nantes Declaration of Mayors and Subnational Leaders on Climate Change adopted, represents the next phase of the Local Government Climate Roadmap
2013 – Polish Presidency convenes first every "Cities Day" (November 21) bringing together ministers and mayors for high level talks
2030 – Estimated that 60% of world's population to be located within urban areas
2050 – UN estimates that by 2050, world's urban population will almost double from 3.4 billion to 6.3 billion

Sources: Acuto 2013; Betsill and Bulkeley 2007; Bulkeley, Broto, and Edwards 2012; Bulkeley and Newell 2010; C40 2011; Climate Alliance 2013; Girardet 2008; ICLEI 2013; Kousky and Schneider 2003; Moore 2012; NOAA 2013; OECD 2013; UCCRN 2013; UNFCCC 2013; UN-HABITAT 2011

Introduction

The causes and effects of climate change have been discussed in a variety of forums for decades. Indeed, over the years, the realization that humanity was and is a chief contributor to the problem has only grown. In 1988, the Intergovernmental Panel on Climate Change (IPCC) was established to coordinate the science on the subject and provide a clear indication of the state of climate change knowledge (IPCC n.d.). As "the leading international body for the assessment of climate change," its work is based on the contributions of thousands of scientists from around the world and its "policy-neutral" findings have been the basis for international negotiations (IPCC n.d.). On September 27th, 2013, the IPCC released the first part of its Fifth Assessment Report noting, "It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century" (IPCC 2013). This has been one of the strongest statements from the IPCC to date and should be treated as a call to action.

Unfortunately, climate action has so far been marred by inaction. Nowhere is this more self-evident than at the state level where a global, comprehensive, and inclusive climate change agreement to reduce greenhouse gas (GHG) emissions has yet to be reached. Here at home, Canada is on pace to miss its latest emissions target (17% reduction in GHG emissions below 2005 levels by 2020) by 100 million tonnes. In addition, in the latest speech from the throne where the government laid out its priorities for the future, climate change was not mentioned once in the over 7,000-word speech (Cheadle 2013).

In spite of this, other actors who sense the importance and challenges of climate change have begun to take steps and act as leaders where many states have so far failed. In particular, many local governments are not only realizing that they too share a responsibility

in taking action, but in collaboration with other local governments, they can be strong and effective leaders. As noted by New York City Mayor and Chair of the C40, Michael Bloomberg,

> When it comes to confronting a challenge of this magnitude, nations have long talked about comprehensive approaches, but it has been up to cities to act. After all, cities are most directly responsible for our residents' health and well-being. We are also the level of government closest to the majority of the world's people, which means that when we work together, we have the opportunity to effect change on a global scale (Carbon Disclosure Project 2012, 2).

In these networks lies a fundamental reimagining of the way that climate governance has traditionally been discussed. It moves governance from just the domain of the state to one in which multiple actors are involved, each with their own domain, structures, responsibilities, and challenges. This new governance model can be described as polycentric or multilevel. A global action problem such as climate change requires a collective action response and local government networks see themselves as being at the forefront of this response.

While there are many transnational environmental networks, the primary focus will be on ICLEI – Local Governments for Sustainability (ICLEI), the C40 Cities (C40), the Connecting Delta Cities (CDC) network, and in Canada, the Federation for Canadian Municipalities (FCM) and ICLEI Canada (the Canadian arm of ICLEI). ICLEI and the C40 are arguably the two most well-known international local government networks (as opposed to just being a regional network) with a mandate to address climate change.

Likewise, while there are many hypotheses regarding why local governments join such networks, the primary focus will be on the notions of moral responsibility, the existence of political champions, the opportunity for policy learning, the ability to highlight co-benefits, and norm creation as explanations.

Lastly, it should be noted that there are important and critical differences between cities in the Global North and Global South and, though they are more than worthy of their own analysis, are only nominally discussed.

Primarily then, this paper aims to address two main questions: First, how do we understand the role of local governments and transnational environmental networks within the context of climate change governance; and second, can these networks be effective actors in both mobilizing local governments to action and capable of making a difference? A third, ancillary question asks what has been the Canadian connection to these networks?

Climate change is an issue that affects everyone regardless of location and the role that local governments play in addressing that challenge requires more attention. Due to increased urbanization as well as rising GHG emissions from urban areas, local governments are important actors with the tools to be able to make a difference. Furthermore, the emergence of transnational environmental networks to represent local governments and to spur local government action is a sign that global environmental governance is evolving.

By focusing on transnational environmental networks and through an analysis of the existing literature on the subject, the foundations for this paper will be set. Then, through a Canadian media and Canadian national environmental nongovernmental organization (ENGO) programming analysis, interviews, and a comparison of specific claims made by networks that can be seen as either challenges or successes, a more precise understanding of the role networks can and do play in influencing climate efforts and perceptions will become clearer.

As such, it will be argued that transnational environmental networks fundamentally challenge the dominant discourse around environmental governance and thus a polycentric or multilevel governance approach is best suited to describing and analyzing the situation today. Moreover, it is also evident that these networks can be models for substantive climate action and, though they face challenges, have proved their worth to their membership and continue to grow and become more sophisticated as a result.

Chapter One - The Relationship between Cities and Climate Change

For a variety of reasons, municipalities around the world are now substantial contributors to climate change as well as at risk of some of its most adverse effects. Undoubtedly, certain demographic realities have heavily contributed to making local governments important actors. Quite simply, the world is becoming more urbanized. Already 50 percent of the world's population now live in urban areas (McMichael 2000, 1117). It is further projected by the UN that approximately 60 percent of the world's population will be located in urban areas by 2030 (UN-HABITAT 2011, 3). To take just one example of the scale of this urbanization, the city of Mumbai has a population larger than the populations of 150 UN member states (Otto-Zimmerman 2012, 513). Furthermore, the number of cities with a population greater than one million increased from 75 in 1950 to 447 in 2011 with the average size increasing from two to 7.6 million people (UN-HABITAT 2011, 1).

Meanwhile, it has been estimated by the International Energy Agency (IEA) that urban areas account for 71% of energy-related GHG emissions (Hoornweg, Sugar and

Gómez 2011, 208).* According to the C40, "the world's 50 largest cities generate approximately 2.6 billion tonnes of CO_2eq annually, more than all countries, except the United States and China" (C40 Cities 2012). All the while, cities only make up two percent of the world's total land mass (UN-HABITAT 2011, vi). In essence, local governments are becoming responsible for more and more people as well as for increasing GHG emissions. As noted by Engel, "Some have argued that cities are the natural frontrunners in climate policy, given their large consumption of energy and generation of waste and their traditional authority over land use planning and transportation" (Engel 2009, 413).

It is also important to remember that the effects of climate change – though they may be felt differently in different regions – are truly global and will not ignore cities or respect boundaries. According to a survey of 110 cities conducted by the Carbon Disclosure Project (CDP) in regard to climate change risks: 88 reported "risks from temperature increase / heatwaves"; 81 reported "risks from frequent / intense rainfall"; 49 reported "risks from drought"; 43 reported "risks from storms / floods"; and 39 reported "risks from sea level rise" (Carbon Disclosure Project 2013, 9). Furthermore, a recent study of the largest 136 coastal cities estimated that global flood losses by 2050 will cost between US$60-63 billion per year up from about US$6 billion in 2005 (Hallegatte, et al. 2013, 802). Moreover, a majority of cities listed among the top 20 as facing the greatest risk of flood damage can be found in developing countries where existing infrastructure is also more likely to be unable to withstand a 1 in 100 year flood (Hallegatte, et al. 2013, 802).

* It should be noted that this figure is disputed by some based on whether such figures are attributed to geographical production or consumption as well as the definition of urban boundaries. For instance, Satterthwaite estimates that cities are responsible for between 30-40% of anthropogenic GHG emissions (Satterthwaite 2008, 543).

Another significant outcome of climate change is the growing problem of the urban heat island (UHI) effect, which is the phenomenon whereby temperatures are higher in urban areas than surrounding rural areas due to the built environment, which absorbs more heat. As temperatures rise as a result of climate change it is estimated that the UHI, which is currently thought to raise urban temperatures by 3.5-4.5°C, will further increase temperatures by another 1°C per decade (Corburn 2009, 416). The rise in urban temperatures can have implications for "local air quality, heat stress, morbidity, mortality and energy demand" (Corburn 2009, 416). As an example of the seriousness of this threat, in 2003, a heat wave in Europe was blamed for causing an estimated 22,000-35,000 premature deaths that disproportionately affected vulnerable populations such as the poor and the elderly (Corburn 2009, 416). While some may argue that the 2003 heat wave may not be a direct result of climate change, projected increases in temperature make the likelihood of similar heat waves greater.

Lastly, the threat of increased and more volatile storms, hurricanes, tornadoes, and other extreme weather events are particularly difficult challenges. Given higher populations and interconnected and dense infrastructure, these threats present a higher risk of casualties and damage in urban areas. As noted by the IPCC, "A changing climate leads to changes in the frequency, intensity, spatial extent, duration and timing of extreme weather and climate events, and can result in unprecedented extreme weather and climate events" (Field, et al. 2012, 5).

Therefore, local governments are uniquely situated to take action. For one, they are and will feel the effects of climate change first hand on their population and infrastructure. This, if nothing else, creates a moral responsibility to be responsive now regardless of what

happens or does not happen at other political levels. Moreover, they are the level of government closest to the population with a large degree of influence over GHG emissions. As the following chapters will elaborate on, networks offer the ability to work together in a collaborative fashion across boundaries with an opportunity for larger scale climate action that begins at the local level.

In sum, cities and climate change are linked concepts that must be understood in terms of how each affects the other in order to grasp the importance of local governments to the topic of climate change.

Chapter Two - Literature Review

2.1 A History

A central focus of the debate around climate change relates to responsibility. That is to say, who should do what and when. From a global perspective and indeed within much of the literature around climate change governance, the focus is on the state. The United Nations Framework Convention on Climate Change (UNFCCC) and its processes since 1992 have continued to serve as the leading model for state interaction and negotiation around climate change. However, despite a process that has gone on for more than 20 years, a comprehensive, inclusive, and fair agreement to reduce GHG emissions has so far not materialized leaving a substantial governance and action gap. At the same time, climate change has proven itself to be a global issue requiring a global response that goes beyond just the actions of the state, but also includes individuals, businesses, NGOs, and subnational governments. It is this last group which has begun to come to the forefront of the debate about responsibility. In particular, local governments around the world are beginning to

institute plans – often in contrast to what their national government may be doing – which in turn is generating increased academic and policy analysis and discourse.

The emergence of this discourse dates back to the early 1990s. As the attached timetable illustrates, local governments began to take on leadership roles on climate change as early as 1990 when the City of Toronto became the first government in the world to adopt an emissions reduction target (Kousky and Schneider 2003, 1). Later that year, Vancouver would make the same commitment (20% percent reduction in GHG emissions below 1988 levels by 2005) (Moore 2012, 223-224). These cities took action following the second international conference on climate change hosted by Toronto in 1988 (Moore 2012, 223). Though a role for local governments in the management of the environment was generally discussed as early as 1987 in the influential Brundtland Report (Betsill and Bulkeley 2006, 142), the idea of local governments working together specifically on the issues of sustainability and climate change would not come about until the 1990s. In fact, by the mid-1990s, several transnational environmental networks committed to addressing climate change issues had been formed including ICLEI, Energie-Cités, and the Climate Alliance (Schroeder and Bulkeley 2008, 316-317). Of those networks, ICLEI would become the largest and most well-known. ICLEI was founded in 1990 at the World Congress of Local Governments for a Sustainable Future in New York that was attended by more than 200 local governments from 43 countries (ICLEI n.d.). Prior to ICLEI's creation, local governments were primarily represented by one or both of the International Union of Local Authorities (IULA) and/or the United Towns Organisation (UTO), but neither had a strong environmental focus (Hom 2002, 254).

At the 1992 Earth Summit (the first Earth Summit) in Rio de Janeiro, Brazil, ICLEI and the conceptualization of local governments within the international sphere had their first major development. This marked the first time that local governments engaged with the UN system (Hom 2002, 252). Indeed, this was considered a breakthrough as at the time the UN only recognized central governments and NGOs (Hom 2002, 253).

> The attitude towards both cities and local government was generally very negative. Cities were viewed largely as environmental problems. The focus of debate was on how to stop the growth of cities. All the development experts had spent most of their careers on rural development. Local government was seen as parochial, if not corrupt (Hom 2002, 253).

ICLEI also succeeded in receiving support from Maurice Strong, who was at the time the Secretary General of the United Nations Conference on Environment and Development (the formal name for the Earth Summit) in acknowledging that local governments must be part of the discussion: "If sustainable development does not start in the cities, it simply will not go. Cities have got to lead the way" (Otto-Zimmerman 2012, 512). His support helped to legitimize ICLEI. Second, the influential summit produced Agenda 21, which helped to set the stage for the development of the "Global Environmental Facility (GEF), United Nations Convention on Biological Diversity, and the establishment of the United Nations Commission on Sustainable Development (CSD)" (Kubiszewski, Cleveland and Miller 2012). Included within Agenda 21 was also a chapter dedicated to the role that local governments should play known as "Chapter 28 – Local authorities' initiatives in support of Agenda 21", this chapter described the importance of local government involvement noting that

> Because so many of the problems and solutions being addressed by Agenda 21 have their roots in local activities, the participation and cooperation of local authorities will be a determining factor in fulfilling its objectives. Local authorities construct, operate and maintain economic, social and environmental infrastructure, oversee planning processes, establish local environmental policies and regulations, and assist in implementing national

> and subnational environmental policies. As the level of governance closest to the people, they play a vital role in educating, mobilizing and responding to the public to promote sustainable development (United Nations Sustainable Development 1992, 28.1).

ICLEI was one of the key architects of Chapter 28 and it is an early example of local government involvement on international environmental issues (Hom 2002, 253).

Meanwhile, ICLEI also began to emerge as the dominant international local government organization that addressed climate change issues. One of their most significant and high profile campaigns was the Cities for Climate Protection (CCP) program, which was established in 1993 at the first Municipal Leaders' Summit on Climate Change in New York (Moore 2012, 224). The original aim of the CCP was to recruit local governments who collectively were responsible for ten percent of the world's GHG emissions (Betsill and Bulkeley 2004, 477). Joining the CCP program required local governments to commit to the "5 milestones approach" which in short meant: 1. Conducting a baseline emissions inventory and forecast; 2. Adopting an emissions reduction target for the forecast year; 3. Developing a local action plan through a multi-stakeholder process; 4. Implementing policies and measures; and 5. Monitoring and verifying results (Pattberg and Stripple 2008, 380). Collectively, the CCP members – which mainly consisted of members from North America and Europe at the time – pledged to reduce their emissions by 10-20% from 1990 levels by 2010 (Schroeder and Bulkeley 2008, 316-317).

On the academic front, the scholarly journal "Local Environment" was established in 1997 and published its first article on the topic of cities and climate change (Betsill and Bulkeley 2007, 447). Ten years later, in 2007, the Urban Climate Change Research Network (UCCRN) was founded to "enhance cutting-edge scientific, economic, and planning-related research and to promote knowledge sharing among researchers and urban decision-makers as

well as other stakeholders about the impacts of climate change on cities" (UCCRN 2013). Yet, the influence of cities in terms of trade or innovation has been a focus of scholars since the 1960s (Beaverstock, Taylor and Smith 1999, 447). In 1991, the term "global city" (first introduced by the academic Saskia Sassen) helped to reframe that scholarship further and allowed for others to use the term while considering the role of cities concerning climate change. As noted by Broto and Bulkeley, "In academic discourse, 'global city' refers to cities that are important nodes within the global economic system, but colloquially it also refers to cities that have significance because of their size and concentration of population, or political significance" (Broto and Bulkeley 2013, 93). Furthermore, it is estimated that only about 600 urban centers generate about 60 percent of Global GDP today (Dobbs, et al. 2011). Indeed, the emergence of cities as prominent actors in the international arena is significant, but particularly so when it concerns climate change. As Sassen notes,

> The repositioning of cities and the move away from inter-city competition is further strengthened by the emerging fact that cities are at the forefront of a range of global governance challenges. Because of this, many cities have had to develop capabilities to handle these challenges long before national states signed international treaties or passed national laws. The air quality emergency in cities such as Tokyo and Los Angeles back in the 1980s is one instance: these cities could not wait until an agreement such as the Kyoto Protocol was ratified, nor could they wait until national governments passed mandatory laws for car fuel efficiency and low emissions. With or without a treaty or law, they had to address air quality urgently. And they did (Sassen 2009, 7).

The idea of global cities having an impact on climate change was the underpinning for a new network of local governments known as the C40 Cities. In October 2005, the Mayor of London, Ken Livingstone, invited representatives from 18 cities to London to discuss combatting climate change (Román 2009, 121). Initially called the Large Cities Climate Leadership Group, the meeting was convened, in partnership with ICLEI and the British non-profit organization known as the Climate Group, and over two days highlighted the best planning and financing practices from the various invited cities (Acuto 2013, 5-6). In

August 2006, this newly formed group entered into an official partnership with the Clinton Climate Initiative (CCI), an independent, non-profit foundation, to form the C40 Cities (Pattberg and Stripple 2008, 380).

2.2 ICLEI and the C40 Cities Today

Today, both ICLEI and the C40 are the subject of much of the scholarly debate around the role that transnational environmental networks play. While there are other networks as previously mentioned (e.g. Energie-Cités, the Climate Alliance, etc.), none have reached the stature or influence of the aforementioned networks in part due to their size and narrower mandates. ICLEI today consists of "12 mega-cities, 100 super-cities and urban regions, 450 large cities as well as 450 medium-sized cities and towns in 84 countries" (ICLEI n.d.). There is an annual fee to become a member of ICLEI that is determined by: the "Type of organization (i.e. local government or association); Gross National Income per capita; [and the] Population of the local government" (ICLEI n.d.). For a Canadian city with a population of between two and four million people, the cost would be CDN$7357.18 (ICLEI Canada n.d.). Moreover, there are currently more than 1,100 local governments of varying sizes from more than 30 countries accounting for 15% of global anthropogenic GHG emissions participating in the CCP campaign (FCM 2013; Pattberg and Stripple 2008, 379). However, it should also be noted that the CCP campaign no longer exists as a global program advocated for by ICLEI. Instead, it has been left to national or regional arms (such as ICLEI Canada) to either build on or adapt the CCP program to their needs (Jackson 2013). For ICLEI, the CCP program has evolved and it could be said has been rebranded as the GreenClimateCities (GCC) program (ICLEI n.d.).

In comparison, the C40 today consists of 63 members representing 18% of global GDP, 1 in 12 people worldwide, and has seen 4,734 collective actions to combat climate change (C40 Cities 2011). While ICLEI has a more open membership, the C40 is more exclusive with members having or perceived as having a certain degree of clout (Acuto 2013, 7). To illustrate this point, of the 63 members of the C40, 42, including the top eight, are ranked and listed as "Global Cities" by the 2012 Global Cities Index and Emerging Market Outlook study by A.T. Kearney and the Chicago Council on Global Affairs in their biannual report (A.T. Kearney & The Chicago Council on Global Affairs 2012, 3).

In 2012, the C40 also changed its membership guidelines (C40 Cities 2012). Membership is now divided into three categories: Megacities (formerly Participating City); Innovator Cities (formerly Affiliate City); and Observer Cities (C40 Cities 2012). Megacities are defined as having either an existing population of three million or more, a projected population of ten million by 2025, or be one of the top 25 global cities as ranked by current GDP output at purchasing-power parity either currently or projected by 2025 (C40 Cities 2012). Innovator Cities are those that do not meet the Megacity threshold, but have shown environmental and climate change leadership and have been "internationally recognized for barrier-breaking climate work" as well as a "regionally recognized 'anchor city' for the relevant metropolitan area" (C40 Cities 2012). Finally, Observer Cities are defined as new cities applying to join the C40 for the first time to either the Megacity or Innovator membership and must meet the C40's participation requirements for up to one year (C40 Cities 2012). Alternatively, a city can have Observer membership if they meet all the previously mentioned requirements, but have been unable to join the C40 for "local regulatory or procedural reasons" and have therefore been delayed in achieving their desired

membership (C40 Cities 2012). As of 2012, 41 cities had Megacity membership and this includes cities from both the Global North and Global South (C40 Cities 2012). In addition, only megacities can serve as the C40 Chair or be members of the C40 Steering Committee or C40 Board (C40 Cities 2012). As well, there is no cost for cities to join the network. Most of the C40's funding comes from "the Bloomberg Foundation, the William J. Clinton Foundation and other philanthropic avenues" (Milne 2012).

Both ICLEI and the C40 are actively engaged in both demonstrating the collaborative efforts of local governments around the world working together on climate change as well as their ability to advocate on a political level in established forums such as the UNFCCC. For instance, since 1995, ICLEI has held observer status at the UNFCCC (ICLEI 2008). Prior to the 1997 Kyoto summit, most members of the CCP at the time made presentations to their national-level delegates expressing the risks that climate change posed to their cities as well as their ability to contribute to a global emission reduction strategy (Deangelo and Harvey 1998, 113). More recently, at COP 13 in Bali in 2007, ICLEI's delegation was larger than any single country and represented the second largest delegation to attend (Schroeder and Bulkeley 2008, 318). From there, ICLEI launched the Local Government Climate Roadmap to parallel the UN Climate Roadmap in its attempt to obtain a post-Kyoto framework by COP 15 in Copenhagen (ICLEI 2009). During this process, ICLEI has had representation at each subsequent COP and been involved in negotiations to include local governments in any framework that emerges. It has also claimed some success in obtaining "preliminary referencing to subnational and local governments by national negotiators" (ICLEI 2009). The Local Government Climate Roadmap has continued its work at COPs post-Copenhagen as a climate agreement has yet to be reached (ICLEI 2009). In 2013, at the World Mayors

Summit on Climate Change, the Nantes Declaration of Mayors and Subnational Leaders on Climate Change was adopted by ICLEI "with the support of over 50 mayors from 30 countries, and more than 20 regional and global networks of local and subnational governments" (ICLEI 2013). The Nantes Declaration marks a "new phase for the Local Government Roadmap, an advocacy process aimed at recognising, engaging and empowering local governments within the global climate regime" (ICLEI 2013).

Similar to ICLEI, the C40 has been active with regard to advocacy. Since its creation, the C40 has had a presence and been involved in discussions and briefings at a number of international gatherings including the recent 2012 UN Conference on Sustainable Development (A.k.a. Rio+20) as well as at the 2009 COP 15 in Copenhagen (Acuto 2013, 8; Gore and Robinson 2011, 4). It has also presented communiqués at COP 11 and MOP 1 in Montreal in December 2005, the G8 Summit in Heiligendemm in June 2007 and at COP 13 in Bali in December 2007 (Boutelegier 2009, 18). In addition, the C40 has also participated in meetings of the Organization for Economic Cooperation and Development (OECD) Roundtable for Mayors, which brings together national ministers and city mayors to strengthen coordination efforts in order to create growth and prosperity for cities (C40 Cities 2012).

As well, both the C40 and ICLEI have become more representative of municipalities from all parts of the world compared to when they started. Though ICLEI's early membership primarily came from North American and European municipalities, it has since come to include an increasing amount of members from the Global South (Bulkeley, Broto and Edwards 2012, 548). For example, by 2002, national CCP campaigns existed in Australia, Canada, Finland, India, Italy, Mexico, the Philippines, South Africa, the U.K., and

the U.S. as well as regional campaigns in Europe, Asia, and Latin America (Betsill and Bulkeley 2004, 477-8). In comparison, the C40 has made a point of emphasizing its global reach by ensuring its membership substantially represents cities from the Global South and has seen its overall membership rise from 18 initial members to 63 today.

2.3 The Canadian Context

While certain cities previously mentioned (E.g. Toronto and Vancouver) have been relatively early advocates for climate change action, at the national level there has continued to be little evidence of progress. There have been several federal climate change plans since the late 1990s, none of which have been implemented (Causley 2008, 15). Like other countries, there has therefore been a significant governance void when it comes to climate change action. Furthermore, in Canada, municipalities are estimated to have control over approximately 44% of Canadian GHG emissions (FCM & ICLEI 2012, 1).

In fact, many Canadian municipalities were early adopters of climate change-related policies and were some of the first to join ICLEI. ICLEI's World Secretariat was even initially hosted in Toronto beginning in 1991 (Moore 2012, 224).* In Canada, in the early and mid-1990s, there were two municipal climate change programs. There was the CCP run by ICLEI (starting in 1994), and the 20% Club run by the Federation of Canadian Municipalities (starting in 1996) (FCM & ICLEI 2004; FCM 2013). However, in 1999, the CCP and 20% Club programs merged to create the Partners for Climate Protection (PCP) program to be run jointly by the FCM and ICLEI Canada. The PCP program adopted the five milestones approach and had five founding members: Edmonton; Ottawa, Regina; Vancouver; and

* In 2010, the World Secretariat moved to Bonn, Germany (ICLEI 2008).

Toronto (FCM & ICLEI 2004, 5). Early emphasis was on building the network and engaging municipalities about their role in addressing climate change as well as moving toward completing the first milestone, which is to create a GHG inventory (FCM & ICLEI 2004, 10). To that end, an environmental consulting firm, Torrie Smith and Associates, was retained to provide the software to help local governments measure and track their GHG emissions (Betsill and Bulkeley 2004, 478). "The focus was on management of carbon dioxide (CO_2), methane (CH_4) and Nitrus Oxide (N_20) in municipal corporate operations and community at large" (Moore 2012, 224). By 2004, the PCP consisted of 119 member municipalities representing 60 percent of Canada's population (FCM & ICLEI 2004). In addition, 42 milestones had been completed, while16 more were in progress (FCM & ICLEI 2004).

Today, over 240 municipalities have joined the PCP program covering all provinces and territories and accounting for 80% of the Canadian population (FCM 2013). As of 2012, 251 milestones had been completed by member municipalities (FCM 2012, 14). Furthermore, from 2008 to 2012, more than 800 individual projects were undertaken by PCP municipalities representing "more than $2.3 billion of investments in local mitigation activities and have led to annual GHG reductions totalling more than 1.8 million tonnes" (FCM & ICLEI 2012, 1). The FCM-ICLEI Canada partnership to manage the PCP program was also renewed for another five years in 2012 (FCM 2012, 14).

Aside from the PCP program, which focuses on mitigation efforts, ICLEI Canada also launched the Building Adaptive and Resilient Communities (BARC) program in 2010 to help municipalities prepare and respond to the impacts of climate change (ICLEI Canada n.d.). Currently there are 21 municipalities involved in that program, which focuses on

adaptation measures and requires adopting a municipal plan of action and monitoring and reporting results (Jackson 2013). For participants, a number of supports are provided including a series of online tools designed to help understand and implement actions, access to ICLEI Canada staff, and opportunities for networking (ICLEI Canada n.d.).

While there is no fee for participating in the PCP program (though there is a fee for joining ICLEI Canada as a member), members pay a fee to join the BARC program, which is determined based on population size (Jackson 2013). While these numbers are not insignificant, it should be noted that Canada has over 3,500 municipalities, 2,000 of which are members of the FCM meaning that as a proportion, membership in either program, but particularly the PCP program (given that it has been in existence for close to 20 years) is relatively small (FCM 2013; Gore and Robinson 2011, 19). Nonetheless, membership in the PCP program is diverse, covers the vast majority of the population, and has continued to grow steadily from 53 in 1998, to 164 in May 2008, to over 240 today (FCM 2013; Gore and Robinson 2011, 20).

Concerning the C40, there are currently two Canadian members: Toronto and Vancouver. Toronto has Megacity membership and Vancouver (which joined in January 2013) has Innovator membership. From 2008-2010, then-Toronto Mayor David Miller served as the C40 Chair and attended COP 15 in 2009 in Copenhagen representing the C40 (Moloney and Lu 2009).

In sum, local governments have only really come into their own as a focal point for scholarly attention since the early 1990s following the establishment of local government networks who gave voice to the idea that local governments matter when it comes to climate

change. They have argued for and gained recognition as legitimate actors from organizations such as the UN and have created advocacy plans to push their agenda further. As they have grown, their programs have come to include both mitigation and adaptation elements. Today, both ICLEI and the C40 have evolved considerably from where they started. They have developed into stronger, more organized and professional networks that can make claims (based on their membership) of being increasingly representative of local government needs at an international political level, while also providing benefits to their members. Likewise, in Canada, there has always been some awareness and involvement of certain local governments in transnational environmental networks and as those networks have grown so too has Canadian involvement in them. Since then, though the literature and history of transnational environmental networks is relatively brief, there has been a steady increase in the analytical and theoretical value to be gained from examining what they have achieved and hope to achieve going forward. The following chapter will discuss the theoretical foundations for this paper and offer an analysis of the competing theoretical frameworks around this topic.

Chapter Three - Theoretical Framework

3.1 Placing Transnational Environmental Networks within International Relations (IR)

An important discussion needs to take place regarding where transnational environmental networks consisting of local governments belong within the discipline of international relations. If there is to be any success in dealing with the effects of climate change, local governments will have to be a key part of the solution. Climate change is a necessarily complex topic that includes multiple stakeholders, diverse issues, and a great deal

of politics. At the same time, traditionally, climate change has been viewed with a certain theoretical lens. While several "traditional" or mainstream theories have been proffered by scholars that focus – at least in part – on the state, including variations on neorealism, neoliberal institutionalism, and constructivism, it is the notions of polycentric systems or multilevel governance that offers the best analysis and understanding of transnational environmental networks. Simply put, local governments are crucial to any success in mitigating and adapting to the effects of climate change. As such, they are worthy of their own level of analysis. Furthermore, the emergence of transnational environmental networks represents a positive – though arguably nascent – step forward in bringing the idea of local action to the international arena. Yet, there has been much debate amongst scholars about what exactly these networks are, do, and represent.

To begin, two definitions are necessary to provide context to the following discussion. The first is that of "governance" and the second is that of "transnational networks" both of which appear frequently within the literature. Governance can be defined broadly as involving "processes through which collective goals are defined and pursued in which the state (or government) is not necessarily the only or most important actor (Betsill and Bulkeley 2006, 144). Moreover, it includes three characteristics: it is defined by the "public" nature of its goals; it is ordered and intentional; and it is authoritative (Andonova, Betsill and Bulkeley 2009, 55). As such, governance can be said to include not only states, but also international organizations, global social movements, NGOs, transnational scientific networks, business organizations, and multinational corporations among others (Okereke, Bulkeley and Schroeder 2009, 60). Environmental governance is therefore not a vertical

structure with defined power and compliance structures, but involves multiple stakeholders and processes that may include both vertical and horizontal decision-making structures.

Secondly, transnational networks can be defined as being "multifaceted, having some of the features of nongovernmental, quasi-governmental, and business organizations" (Betsill and Bulkeley 2006, 148). Moreover, within this broader definition is a narrower one that is more attuned to accurately describing the networks to be discussed in this paper. In other words, ICLEI and the C40 can be described as "transnational advocacy networks" which are "...forms of organization characterized by voluntary, reciprocal and horizontal patterns of communication and exchange" (Keck and Sikkink 1999, 91). In essence, a transnational network is one that stretches across and beyond fixed national boundaries and, in the context of this paper, refers to the collection of local governments working collaboratively within a network of their own making and independent of other levels of government. Together, these two definitions help to provide both a descriptive and conceptual framework for the discussion that is to follow.

Unfortunately, far too many climate change debates in the international relations discipline have primarily overlooked non-state actors. "In fact, among experts in international environmental affairs, there has been relatively little discourse about the role of local institutions in global environmental protection" (Auer 2000, 156). Most of the attention has focused on the interaction of states primarily within the framework created by the UN under the auspices of the UNFCCC. Harris goes further arguing that

> The bulk of literature on justice and climate change, and all related international legal instruments, speak of obligations of *states* to act (or not) to limit their emissions of GHGs, or to act in ways to mitigate the effects of these emissions and, to assist poorer states to help them develop in less polluting ways (Harris 2008, 482).

For instance, should the Global North undertake greater GHG emissions reductions than those in the Global South or should a global carbon trading system be developed to reduce emissions? These are legitimate questions, but at the same time they ignore other developments and other actors that could and do have an impact on climate change. As transnational environmental networks are keen to point out, national governments do not have a monopoly on addressing climate change and cannot do it alone. Indeed, even at international forums, local governments have become more vocalized about the dichotomy between states and local governments regarding action on climate change. For example, at the 2002 UN Johannesburg Earth Summit, local governments made an official declaration arguing that: "National states cannot, on their own, centrally manage and control the complex, fast-moving, cities and towns of today and tomorrow-only strong decentralised local governments, in touch with and involving their citizens, and working in partnership with national governments, are in a position to do so" (Girardeet 2008, 7). Keohane and Victor acknowledge that the environmental governance regime involves many actors, but still gives priority to the state, while briefly making reference to "subnational action" being "loosely coupled" to the regime (Abbott 2011, 9 & 23). As Keohane and Victor note:

> The international institutions that regulate issues related to climate change are diverse in membership and content. They have been created at different times, and by different groups of countries. They have been crafted in a context of diverse interests, high uncertainty, and shifting linkages. They are not integrated, comprehensive, or arranged in a clear hierarchy. They form a loosely-linked regime complex rather than single international regime (Keohane and Victor 2011, 19).

However, the key dilemma for these scholars then is only on how to manage that fragmentation and to understand its causes and effects (Abbott 2011, 24).

While there is merit in these discussions, the notion of local governments having both a responsibility and willingness to take action to reduce and/or adapt to climate change

independently of the state aims to reframe the place of local governments within the environmental governance regime. For instance, over 1000 local governments within the U.S. alone have committed to cutting GHG emissions as part of the U.S. Mayors Climate Protection Agreement, while the U.S. federal government has not committed to any specific reductions (Gore and Robinson 2011, 23-24). Similarly, more than 1,600 "cities, municipalities and districts" have joined the Climate Alliance of European Cities with Indigenous Rainforest Peoples and pledged to reduce their GHG emissions by primarily focusing on the energy and transport sectors (Climate Alliance 2013). The essence of these networks, however, is that they have been created by cities for cities, and though they may be influenced by the actions of other levels of government, they are not answerable to them.

Two more examples are useful to conceptualize this change that networks such as ICLEI and the C40 are trying to push. First, transnational environmental networks have made a point of using the dominant language around the science of climate change used by the IPCC and the UNFCCC to reframe "the centrality of cities to the debate and being a primary policy maker" (Acuto 2013, 9). The C40 has adopted the rhetoric that cities are responsible for upwards of 70% of GHG emissions, which is referenced in IPCC documents (Acuto 2013, 9). Second, following the release of the IPCC's Fifth Assessment Report, which strongly reaffirmed humanity's influence on GHG emissions, ICLEI issued a press release announcing the Nantes Declaration, a new phase of their "Local Government Climate Roadmap" (ICLEI 2013). This new phase involves creating a "Friends of Cities" group that brings together national governments who wish to collaborate with local and subnational governments" (ICLEI 2013). The important point being that ICLEI is trying to reposition local governments as the main actor with national governments coming to them. Crucially,

ICLEI and the C40 see one of their main strengths as being networks of local governments that are able to understand each other based on the common problems that municipalities face. In essence, ICLEI and the C40 are attempting to demonstrate that they are organized and coherent structures that seek to be authoritative voices for municipalities on the issue of climate change as well as leaders globally for reducing GHG emissions.

At the same time, some other scholars are beginning to recognize the role and importance of local governments in the world. "The international system is classically viewed as a world of states. Cities, however, are coming to play an increasingly important and highly dynamic, independent role in the global political economy" (Calder and de Freytas 2009, 94). It is clear that cities and urbanization in general are causing some to rethink governance issues. In the 1960s, the interdisciplinary field of Urban Studies first emerged which included urban planners, architects, sociologists, criminologists, anthropologists, philosophers, and political scientists (Calder and de Freytas 2009, 79). Nevertheless, scholarship on local governments specific to climate change really only began with the emergence of transnational environmental networks in the 1990s (Broto and Bulkeley 2013, 92).

Today, as these networks have grown in terms of their membership and mandate, so too has the amount of scholarship on the theoretical implications for climate change governance as well as on the value of cities. The rise of these networks pose two important questions: First, what does this mean for how climate change governance and responsibility is understood; and second, why and what are the motivations for local governments to join such a network?

To begin, several authors note that ICLEI and the C40 are inherently useful for local

governments because they provide an opportunity to share ideas, norms, and knowledge as well as accommodate non-state actors in the analysis (Gore and Robinson 2011, 13; Okereke et al. 2009, 59). While there are some constructivist ideals represented by these networks, the theory of constructivism still emphasizes the idea of the state and how non-state actors are influencing it rather than being the "governors" themselves (Okereke, Bulkeley and Schroeder 2009, 62).

Where long-established theories have failed to provide an overall explanation of the rise of local governments and local government networks within the context of climate change governance, newer theories such as polycentric systems or multilevel governance have emerged to fill the gap. The idea of polycentric systems as explained by Ostrom helps to partially explain the different roles that different actors must play in order to tackle the collective action problem of climate change as well as the reasons why these networks can work despite their voluntary (i.e. without being compelled through a law or fine) nature.

> A pressing global problem faced in the contemporary world is reducing the emission of greenhouse gases (GHGs) by individuals and organizations around the world that cumulate to increase the threat of major climate change. Solving this problem requires collective action. To avert this global threat, many actors at diverse levels need to make costly decisions to reduce GHG emissions. Everyone benefits from reduced emissions even if they do not contribute any effort themselves (Ostrom 2010, 550).

Indeed, a key factor that Ostrom identifies is the realization that climate change is not just a matter for states. It was precisely this point that ICLEI founder Jeb Brugmann highlighted as one of the driving reasons for establishing an international local government network on environmental issues noting that "the UN overlooked the fact that local governments are the key implementers of environmental policies and often spend more money than any other level of government" (Otto-Zimmerman 2012, 512).

The basic principle behind polycentric systems is that there are multiple governing

authorities operating at different scales with each governing system having its own level of independence to make norms and rules (Ostrom 2010, 552). In this sense, networks such as ICLEI and the C40 exist independently of other governing regimes and, though they may work together with other regimes and are connected by the common goal of addressing climate change, they set their own rules. While using different terminology, Betsill and Bulkeley similarly describe the need to make space for multiple levels of governance.

> A multilevel governance perspective does not necessarily signal a weakening of the state but rather a redefinition of the scope and scale of state activity. As illustrated in the case of climate change, the role of the state is not governed by some determinate and finite notion of capacity, but instead through negotiations in which actors and institutions mutually define their respective roles (Betsill and Bulkeley 2006, 153).

What polycentric systems/multilevel governance theory does well is reposition the debate around climate change as one where multiple actors are both willing and able to take on leadership roles and contribute to taking action. This is a practical notion that perhaps is not revolutionary in nature, but is still something that conceptually is often overlooked. It allows for a broader discussion of the actors, issues, and relationships involved in tackling a collective action problem.

3.2 Hypotheses for Why Local Governments Join a Network

That being said, there are still several areas of contention that suggest that further analysis is necessary. Key among those contentions concerns the latter question posed earlier, which asks why a local government would join a transnational network. To give one example, Gore outlines four broad reasons that municipalities may join a network: 1. Concern about climate change resonates locally; 2. A feeling of moral and collective obligation to take action; 3. To achieve co-benefits and other tangible reasons; and 4. The existence of weak obligations to joining, but the strong possibility of learning and knowledge

exchange opportunities (Gore 2010, 35). Overall, a variety of factors such as policy learning opportunities, the potential to achieve co-benefits, the ability to gain access to resources and services, the existence of a political champion, and/or the creation of a socialized norm are most often cited as affecting a local government's decision to join a network.

One of the perceived benefits of polycentric systems is that it allows for policy learning and sees local networks as being able to promote learning from others through mutual monitoring and adopting best practices of others over time (Ostrom 2010, 552). This is similarly echoed by Abbott who more broadly notes that "…if cities, firms, CSOs, and other actors are to observe their peers on a global scale, benchmark their strengths and weaknesses, and learn from their successes and failures, schemes that facilitate interaction, disseminate information and encourage learning are essential" (Abbott 2011, 29). Indeed, from the perspective of local governments, the possibility of learning through association and sharing is hypothesized to be a key driver for local governments to join such a network.

> Learning provides a central mechanism for improving adaptive capacity and facilitating policy adaptation. Furthermore, exchange among actors through learning the field of climate change has the potential to stimulate improvements in other policy domains. Learning focused on specific policy problems is termed 'policy learning' (Lee and van de Meene 2012, 201).

For both the C40 and ICLEI, opportunities for policy learning are key elements of their programming. The C40 network has promoted the concept of sharing knowledge and best practices through a series of workshops organized around specific issues. For example, there have been workshops on: airports and ports planning in Los Angeles and Rotterdam in 2008; waste management in London in 2010; energy efficiency in Berlin in 2010; and infrastructure financing in Basel in 2011 (Acuto 2013, 13). ICLEI too offers a wide range of policy learning opportunities through resource guides, consultations, or events for

municipalities to engage with and learn from (ICLEI n.d.). Yet, despite claims of the benefits of policy learning and sharing, some scholars suggest that there is at best conflicting evidence that this is an effective motivator for local governments to join networks. In their study of six members of the CCP program, Betsill and Bulkeley fail to identify any policy learning and note that policymaking in local governments is inherently complex making such assumptions difficult to verify (Betsill and Bulkeley 2004, 486).

Undoubtedly, climate change is of great concern to many municipalities, but the reasons for joining a network may go beyond just a policy learning perspective. A second commonly cited reason for joining a network is the opportunity for local governments to highlight potential co-benefits of taking climate action. These co-benefits can include a range of options such as "the potential for considerable economic savings, improving local air quality, and increasing the liveability of communities" (Betsill and Bulkeley 2004, 478). For instance, in a study of 23 municipalities from the U.S. that have joined ICLEI's CCP program, Kousky and Schneider found that the reasons that were most cited for joining were cost savings and the existence of co-benefits (Kousky and Schneider 2003, 3). Lindseth goes further in stating that the CCP campaign does not emphasize the idea of climate change as a moral responsibility, but rather chooses to highlight co-benefits and the ability for each municipality to adapt the program to their own particular needs (Lindseth 2004, 332). In other words, networks provide another opportunity for local governments to sell and develop policy and/or save money along the way.

Third, both the C40 and ICLEI offer tangible services to their membership, which may provide a sufficient incentive for local governments to join. Both the C40 and ICLEI have global procurement processes to help their members get better deals on a variety of

services (Román 2009, 125-6). For example, in May 2007, the C40 introduced the Energy Efficiency Building Retrofit Program (EEBRP) to establish a global market for building retrofits (Román 2009, 125). Though C40 cities are under no obligation to use this service, they have the option of accessing this service to get the best deal on large-scale retrofits provided they explicitly plan for emission reductions (Román 2009, 125).* ICLEI also provides a variety of services including resolution language, occasional small grants and technical services (Kousky and Schneider 2003, 5). As well, both networks are involved in providing technology to help members conduct a GHG inventory (Carbon Disclosure Project 2012, 13-14; Sharp, Daley and Lynch 2011, 435).

Fourth, it may be that a "political champion" within a municipality is the key and that for many municipalities, joining either ICLEI or the C40 is merely the result of the will and/or advocacy of a particular individual (Betsill and Bulkeley 2007, 452; Broto and Bulkeley 2013, 92; Kousky and Schneider 2003, 3).

A fifth explanation put forward by some scholars is that these networks, as they have continued to establish themselves as viable and functional places for local governments to work together, have created a socialized norm. In other words, members are joining these networks partly because of who else has joined. This theory (which is often a central tenet of constructivism) relies heavily on the idea of global cities, but for which there could be some evidence. Gore and Robinson use the examples of Vancouver and Toronto to show how this may work. Both are large and wealthy cities and both were early members of the PCP campaign (Gore and Robinson 2011, 14). Over the years, several surrounding municipalities

* It should also be noted that the EEBRP is also open to non-C40 members such as members of the U.S. Conference of Mayors (Boutelegier 2009, 17-18).

of the two cities have subsequently joined the PCP program, which perhaps hints at the existence of a conformity norm (Gore and Robinson 2011, 17). A further example is that of the C40 whose membership, as previously mentioned, contains several of the world's most highly ranked "global" cities (A.T. Kearney & The Chicago Council on Global Affairs 2012). As noted by Lee, "Global cities with a solid foundation for globalization can become significant global environmental actors by playing a role as 'norm entrepreneurs' that diffuse, adopt, and articulate new rules of climate governance" (Lee 2013, 112). There is therefore a possible sense of prestige to being part of the C40 that sets a benchmark for others to strive for.

Indeed, it is clear that there may be several reasons why a municipality would join a network. Whether it be due to a sense of moral responsibility, the ability to link climate change to co-benefits, gain access to resources and the chance to learn from others, the existence of political champions within a municipality, and/or due to the emergence of a new social norm. As the literature suggests, there is still much debate as to what these networks represent. However, for many scholars it is evident that these networks certainly have a place within the broader domain of climate change governance. The following chapter will discuss the methodologies used to conduct research and gather information for this paper.

Chapter Four - Methodology

The methodology for this paper includes four types of analysis. First, a media analysis was conducted using prominent Canadian media outlets to help evaluate the degree to which these networks have received media coverage in Canada. The databases of large

and prominent English-language daily newspapers were queried using the following search terms: "ICLEI" or "International Coalition for Local Environmental Initiatives"; "Partners for Climate Protection;" "Cities for Climate Protection"; and "C40 Cities". It should also be noted that the query does not make claims regarding whether a media hit was positive, negative, or neutral in nature.

Second, an analysis of seven major national Canadian ENGOs with climate change programming examined the level of focus of that programming. The groups analyzed were: World Wildlife Fund Canada (WWF Canada); Nature Canada; Greenpeace Canada; Environmental Defence Canada; the David Suzuki Foundation; Eco Justice Defence Canada; and Pollution Probe. These groups were evaluated based on their climate change programming as represented on their websites as well as any references to local governments or cities. The analysis does not make claims regarding the effectiveness of any particular campaign, but rather is designed to give a glimpse into the focus of the ENGOs when thinking of and designing climate change programming. The goal is to determine whether ENGOs engage in programming that focuses on local government action and/or whether issues specific to municipalities are considered.

Third, in order to help address the key research questions of this paper, two interviews were conducted. The interviews focused on two networks who agreed to participate: ICLEI Canada and the Connecting Delta Cities (CDC) network.

Finally, using information that is publicly available, a comparison and breakdown of claims on a number of issues including GHG emissions reporting, membership numbers, and

the relationship with other actors among others will further help to be able to draw conclusions around the importance and influence of these networks.

Based on this research, the following chapter will provide insight into some of the findings as well as highlight ongoing challenges and signs of success or progress of these networks.

Chapter Five – Findings

5.1 Media Analysis – Awareness of Networks

Sections 5.1 and 5.2 speak to the awareness of these networks by non-local government actors in Canada and shows that while there is a fair amount of involvement from municipalities, this has not resulted in more attention being paid to these networks by the rest of Canadian society.

Beginning with the media analysis, as the results show (see Table 1), none of the search terms generated a great degree of media attention. Unsurprisingly, of the media hits that the C40 did get, most of it was concentrated in either national newspapers or the newspapers of C40 members (Toronto and Vancouver). Perhaps the only truly surprising result is the high number of hits that ICLEI registered in the Edmonton Journal. However, this can be explained by the fact that the City of Edmonton hosted the 2009 ICLEI World Congress, which is the network's signature event held every three years and brings together local government delegates from around the world, national government and international

agency representatives, partner organizations and businesses, and donors (ICLEI n.d.). Of the 14 hits found in the Edmonton Journal, 13 referred to the World Congress.

Table 1 - Appearance of networks in prominent English Canadian daily newspapers

	ICLEI or International Coalition for Local Environmental Initiatives	Partners for Climate Protection	Cities for Climate Protection	C40 Cities
Globe & Mail	2 (1997 & 2005)	3 (2007-2012)	4 (1997 & 2001)	15 (2007-2013)
Toronto Star	5 (1991-2009)	6 (2003-2009)	2 (2002 & 2003)	7 (2007-2011)
National Post	2 (2009)	0	0	15 (2007-2010)
Edmonton Journal*	14 (1997-2010)	1 (2004)	1 (1997)	0
Saskatoon Star Phoenix	2 (2007)	11 (2003-2007)	0	0
Vancouver Sun	8 (2005-2011)	1 (2001)	0	2 (2011 & 2013)
Calgary Herald	3 (1993-2000)	4 (2000 & 2005)	0	0
Ottawa Citizen	0	1 (1999)	0	1 (2007)
Montreal Gazette	0	0	1 (2002)	0
Regina Leader Post	0	1 (2003)	0	0
Winnipeg Free Press	0	0	0	0
Halifax Chronicle Herald	0	0	0	0
Victoria Times Colonist	0	0	0	0

Table 1 Description: In the left hand column are the Canadian daily newspapers that were queried. The top row indicates the search terms used. The numbers represent the amount of times each term appeared in each newspaper. The dates in brackets indicate the range of the media hits in years through to September 2013.

*Note: Edmonton hosted the ICLEI World Congress in 2009

What this media analysis demonstrates is that while there may be awareness of the networks at a political and/or bureaucratic level, this has not translated into an awareness of these networks amongst the general population. In other words, it is clear that a driver for a municipality to join a network has little to do with public pressure. At the same time

however, this should not be taken to mean that the Canadian public is unconcerned about climate change. For instance, in early 2007, the environment ranked as a higher concern for Canadians than the economy, security, and health for the first time in 30 years of tracking (Bennett 2008, 2). More recently, following flooding in Calgary and Toronto in the summer of 2013, a poll was conducted that found that 53 percent of Canadians believe that climate change was the cause (Toronto Star 2013). An additional eight in ten people polled responded that they believe the Earth's climate is changing (Toronto Star 2013). This suggests two things despite the awareness amongst Canadians of climate change and its effects particularly as they relate to the urban setting. First, that municipal climate change policy has largely been portrayed independently of a municipality's membership in a network. Second, there is little political benefit or cost to be gained or lost for a municipality that decides to join a network. This is in contrast to the U.S., for example, where there is a movement centred on ideological grounds (often associated with Tea Party supporters) that sees in ICLEI a UN conspiracy to take power and/or a loss of local rights for communities who join the network (Kaufman and Zernike 2012). In a few cases, this movement has succeeded in pressuring some municipalities to withdraw from ICLEI (Kaufman and Zernike 2012). Nevertheless, a similar movement has not risen to the same level in Canada and membership continues to grow.

5.2 ENGO Climate Change Programming Analysis – Awareness of Networks Continued

When looking at a broad spectrum of national Canadian ENGOs, there is little evidence that local governments and urban issues are part of their climate change campaign efforts. All of the ENGOs had at least some of their focus being directed at the federal government as indicated in Table 2 (see below), while only two (WWF Canada and Pollution

Probe) had some of their campaign resources dedicated to addressing the role of local governments. For WWF Canada, one of their campaigns is the Earth Hour event, an annual worldwide event where individuals, businesses, and governments are asked to power down for one hour. Additionally, Earth Hour also includes a local government component known as the "City Challenge" which is a "global contest to recognize cities taking concrete steps to become greener and more sustainable" (WWF Canada n.d.). In 2013, Vancouver won the contest and the title of "Global Earth Hour Capital" while Colwood, BC and Surrey, BC were finalists (WWF Canada n.d.). The messaging is closely linked with climate change and how cities can make a difference. For example, on the Earth Hour City Challenge web page, it is noted that "Today, 80% of the Canadian population lives in cities, where more than 70% of the world's CO2 emissions are generated" (WWF Canada n.d.). For Pollution Probe, local governments feature in a number of reports on a variety of issues. For instance, in a report on climate change and human health, references are made to increased heat in cities resulting in deaths or the risk of other health problems as a result using the examples of Chicago, Toronto, and Montreal (Nugent 2004, 17). Moreover, a 2002 report called "Towards an Adaptation Action Plan: Climate Change and Health in the Toronto-Niagara Region: Summary for Policy Makers" explicitly references cities and climate change. However, many of Pollution Probes' reports are somewhat dated and it is difficult to determine to what extent there is still a focus on local governments or cities. Overall, it is clear that the main focus of these ENGOs is on the role of the federal government and to a lesser extent provincial governments. While there are some words directed at individuals and industry, they are often buried away on websites with seemingly little organizational support behind them in terms of being an active campaign. As an example, Nature Canada merely has a list of tips for

individuals to lower their carbon footprint, while the David Suzuki Foundation has a three year old report available for download for businesses to learn how to measure and reduce/offset GHG emissions.

Table 2 - ENGOs and Target of climate change programming/advocacy

	Federal Government	Provincial Government(s)	Local Government (s)	Individual	Industry
World Wildlife Fund Canada	x	x	x	x	x
Nature Canada	x			x	
Greenpeace Canada	x	x		x	x
Environmental Defence Canada	x	x			x
David Suzuki Foundation	x	x		x	x
Eco Justice Defence Canada	x	x			x
Pollution Probe	x	x	x	x	

Table 2 Description: This table shows the primary targets of ENGO climate change programming/advocacy and the priorities each have concerning who has a part in addressing climate change

As Table 3 shows (see below), the most common area of concern for these Canadian ENGOs revolves around energy and the tar sands. To that end, a lot of discussion is about setting environmental regulations and standards at national and provincial levels for oil production and developing and promoting renewable forms of energy. With the exception of the Earth Hour campaign, there is no strong link to local governments or cities amongst the ENGOs.

Table 3 - Links & ENGO campaign areas

	References to local government, urban design, or cities + climate change	Major Campaign Topic Area(s)
World Wildlife Fund Canada	Earth Hour City Challenge campaign	Energy; Electric cars; Industry-wide carbon neutrality for forest sector; Earth Hour
Nature Canada	None	Energy
Greenpeace Canada	None	Protecting the Arctic; Energy; Tar Sands
Environmental Defence Canada	None*	Tar Sands; Clean energy
David Suzuki Foundation	Blog Posts	Energy; Provincial climate change plans
Eco Justice Defence Canada	None	Tar Sands/Pipelines
Pollution Probe	Old Reports	Energy; Forest carbon management; Emissions trading; GHG reporting; Climate change & human health

Table 3 Description: This table breaks down the ENGO climate change programming to show if/where there has been a connection to local governments, urban design, or cities. The furthest right column also indicates the priorities areas for ENGOs when it comes to climate change.

It should be noted that there are a multitude of ENGOs in Canada and as such there are likely to be a number of local, city-based or regionally-based ENGOs that have some focus on climate change as it relates to their community or communities. Nevertheless, the ENGOs used as part of this study are some of the largest in Canada with comparatively large resources and the ability to mount nation-wide campaigns. In addition, many of the ENGOs referred to here have considerable name recognition either due to their affiliation to their international cousins (e.g. Greenpeace and WWF) or due to their association with a well-known Canadian (David Suzuki). Combined, these seven ENGOs represent diverse issues

*It should be noted that Environmental Defence currently has a campaign related to climate change and local communities that is focused on mobilizing opposition to the Line 9 pipeline that would see oil piped from the Tar Sands east. However, this campaign does not specifically engage with local governments, but rather focuses on individuals within communities.

and interests, but all share a concern regarding climate change. Yet, the predominant narrative of these groups is to reinforce the idea that the most important level of focus is on the national government. Where there is subnational attention, it is almost exclusively focused on the provinces. Such is the case with The David Suzuki Foundation, which put out a report (called "All Over the Map 2012") that examined and compared provincial climate change plans (David Suzuki Foundation 2012). Therefore, while it is possible that local community-based ENGOs actively engage in pushing their local government to action, there is little evidence to suggest that there is any kind of movement or interest in promoting local government action nationally. This would further suggest that the PCP program is not something that receives much attention from outside groups like ENGOs nor that individual local governments hear about such a program from other climate concerned organizations.

Fundamentally, sections 5.1 and 5.2 demonstrate that the Canadian connection to the aforementioned networks is not influenced by media, public or ENGO pressure.

5.3 Challenges Facing Networks

ICLEI and the C40 have changed a lot from when they were founded to where they are today. While both networks have continued to evolve and are today two of the leaders representing municipalities on climate change, there are still substantial challenges that each must address. Mitigation versus adaptation priorities, maintaining and growing membership engagement, limited resources, and how networks engage with and are affected by the actions of other actors such as provincial or national governments are four broad areas that both offer signs of change and pose significant questions going forward.

First, one of the criticisms some scholars have made toward both the C40 and ICLEI is their primary emphasis on mitigation efforts (Reid and Satterthwaite 2007, 1). According to a survey conducted by Broto and Bulkeley on climate actions undertaken by municipalities, adaptation measures accounted for only 12.1 percent of all initiatives (In contrast, urban infrastructure projects had the highest percentage at 31.1 percent) (Broto and Bulkeley 2013, 97). At the same time, Broto and Bulkeley also note that it is difficult to measure adaptation measures because some ongoing efforts undertaken by municipalities may be adaptive without being explicitly linked to climate change (Broto and Bulkeley 2013, 97). Nonetheless, in recent years, there has been a marked shift by networks to address this. Indeed, adaptation efforts, though still lagging compared to mitigation, are progressing. For the C40, in 2008 at the Tokyo Adaptation Workshop, a sub-network called the "Connecting Delta Cities" was created for C40 delta cities that faced an increased risk of flooding due to climate change and is dedicated to developing adaptation solutions (Carbon Disclosure Project 2012, 67). Today, the network is comprised of C40 members: Rotterdam; Tokyo; Jakarta; Hong Kong; New York; New Orleans; London; Ho Chi Minh City; Melbourne, and Copenhagen among others with a small secretariat based in Rotterdam (CDC 2013). For the CDC, which began in 2008, the changes over the years have been clear.

> … [I]n 2008, the first challenge was to get adaptation high on the political agenda. Lots of governments were thinking why? What do you mean climate change? Why is it important? Why do we need to act now? At first, that was what cities struggled with. So for the first couple of years, cities spent lots of time and money just finding out what they were dealing with and what to expect. Now, Connecting Delta Cities consists of ten leading cities in the world, so most cities either have or are in the process of having an adaptation plan. Now we are in the phase of how to implement these plans and how to get funding (Pool 2013).

For ICLEI, a similar process toward addressing adaptation concerns began in 2007 at COP 13 in Bali, Indonesia. There, participating municipalities signed the Bali World Mayors and Local Governments Climate Protection Agreement that aims to address both mitigation

and adaptation concerns (Bulkeley and Newell 2010, 60). Efforts to further entrench adapatation into ICLEI's functioning occurred in 2010 with the first World Congress on Cities and Adaptation to Climate Change (later renamed the Global Forum on Urban Resilience and Adaptation) and was attended by more than 500 participants (ICLEI 2012). This has been followed by annual conferences, the creation of a webinar series, the publication of regular reports, and providing resources to help municipalities learn how to acquire funding and/or develop adaptation strategies and policies. Lastly, ICLEI Canada, as previously described, has developed its own adaptation program for which it solely manages known as the Building Adaptive and Resilient Communities (BARC) program.

This shift toward adaptation is still relatively new with all of the above networks or programs emerging within the past five years. It is however a recognition of changing priorities that is important to consider particularly as the science continues to outline how cities have been and will continue to be affected by climate change. Additionally, while not an either or proposition, developing adaptation strategies is for many cities more important than mitigation. For instance, for some municipalities in the Global South that are already dealing with problems associated with climate change and for who may already have low GHG emissions and/or have limited funds, mitigation policies may not be a high priority. As noted by Román, "While mitigation concerns the protection of a global public good, adaptation is a more localized activity that does not lend itself to global targets" (Román 2009, 130). For this reason, the efforts of networks to develop adaptation strategies and policies as priorities is both a reflection of their own changing memberships as well as the realization that only attempting to stop climate change is not enough. Preparing for what is already happening as well as what is to come is equally – if not more – important.

Second, because of the voluntary nature of these networks a key challenge is trying to ensure that members remain engaged. For Canadian municipalities, this can be seen in a number of situations. For example, Toronto, which is a member of both ICLEI Canada's/FCM's PCP program and the C40 is really only engaged with these networks in a nominal way. Toronto has reached the "Developing a local action plan" milestone of the PCP program (Milestone three of five), but is not actively involved in progressing through the program (FCM 2013). Similarly, Toronto's involvement in the C40 has also been mixed. From 2008 to 2010, Toronto Mayor David Miller acted as the chair of the C40. Miller was a strong environmental advocate and a big supporter of the C40. After being named chair, he said in a press release, "Where national governments are falling short, cities are taking action and achieving results. Climate change is the issue of our time, possibly of all time, and through the C40, we have an opportunity to make real and lasting difference on this pressing global issue" (City of Toronto 2008). As part of that appointment, the City of Toronto contributed $140,000 to the C40 Secretariat in London, UK, which received some criticism from some opposition members on city council who saw it as an unnecessary expense and a "pet project" of the mayor (National Post 2009). In 2010, when the C40 chair switched to Michael Bloomberg, the mayor of New York City and Rob Ford was elected mayor of Toronto, support from the City of Toronto for the C40 ended (National Post 2009). Cities that belong to the C40 are often engaged with the network through the mayor's office, whereas members of ICLEI often have, where possible, a political as well as staff connection to the network (Jackson 2013). As such, the political and ideological differences between Miller and Ford have been critical to the way in which Toronto has interacted or not interacted with the C40.

Indeed, the challenge of turnover and a change in municipal leadership is something that is inherently problematic for networks. In cases of smaller municipalities where staff capacity is already limited, there is often greater difficulty in maintaining engagement. Whether due to a change in municipal priorities or simply staff turnover, it can be a challenge to ensure that knowledge and work related to programming is not lost (Jackson 2013). These networks are voluntary and to some degree rely on continued engagement from politicians in order for progress to be meaningful. For instance, Prince George, BC is currently listed as being a member of the PCP program. On February 8, 2012, the City even issued a press release titled, "The City of Prince George Recognized for Taking Action on Climate Change" that celebrated the reaching of "Milestones 4 and 5 at both the Corporate level and the Community level" (City of Prince George 2012). Yet, one month earlier, it was announced that the entire environmental division would be cut (Kurata 2012). This followed municipal elections on November 20, 2011 that saw a new mayor being elected (CBC News 2011). It was clear that the new mayor wanted to take the city in a different direction and the PCP program was not to be part of that.

According to the FCM, as of 2012, of the 222 members of the PCP program, 93 had not achieved any corporate milestones (i.e. milestones related to municipally owned or operated buildings or services), while 100 had not achieved any of the community milestones (FCM 2012, 14). However, these numbers can be somewhat ambiguous as they do not provide important information such as how long a member has been a part of the PCP or whether a municipality is working on corporate milestones, but has not yet made progress on community milestones or vice versa. This is a problem that has been noted by ICLEI Canada,

which has identified moving its members through the milestone process as one of its bigger challenges (Jackson 2013). Nonetheless, it is also evident that there are other issues.

> The time from joining to completing one or two milestones in the PCP process, let alone all of them, remains long (very few members have achieved all five milestones). And the rules for joining have not changed since the programs creation. A municipal council must pass a resolution stating it will join, but more importantly from the perspective of advocacy, the resolution to be endorsed does not strongly state the prominence of municipal governments in climate change relative to the federation nor does it make any direct statement about what the national government must or should do (Gore and Robinson 2011, 21-22).

Nevertheless, the cases of Toronto and Prince George speak to the notion that a political champion is an important element for a local government to not only join a network, but also influence its activity within it.

Third, the networks themselves may have limited resources. Whether this relates to staff, the ability to host in-person meetings or events, or other issues, networks can be limited in what they want or are able to do (Jackson 2013; Pool 2013). As a result, networks such as the CDC focus more on using webinars as opposed to in person events to meet and connect with members (Pool 2013). Alternatively, ICLEI Canada has developed the BARC program with a membership fee in order to help cover costs (Jackson 2013).

Fourth, local governments do not operate within a vacuum. There is a need to develop relationships and connections with other actors because there is a limit to what local governments can do on their own. In Canada, all levels of government play a part in setting rules for climate change governance. In 2007, Toronto City Council passed the Climate Change and Clean Air Action Plan, which committed the City to reduce its GHG emissions by 6 percent below 1990 levels by 2012 (equivalent to what Canada committed to when it ratified the Kyoto Protocol) (Purcell 2013). A progress report released by the City in April 2013 has shown that Toronto has in fact exceeded its target and has managed to reduce its

emissions by 15 percent below 1990 levels and is halfway toward its 2020 target of 30 percent below 1990 levels (Purcell 2013). However, while an undeniable success, not all of it can be attributed to the City's actions alone. A breakdown of emissions found in the City's progress report reveals that emissions from transportation have in fact risen since 1990 by at least 15 percent (based on 2008 data), waste emissions are down 52 percent, and emissions from the energy sector have fallen 30 percent (Purcell 2013). The data reveals that the City has so far failed to reduce its transportation emissions, while making significant progress in reducing its waste emissions. Yet, it had nothing to do with the 30 percent reduction in energy emissions. That can be attributed to the decision of the Ontario government to phase out coal-fired power plants and replace them primarily with renewable energy and natural gas plants (Purcell 2013). If the situation were reversed however, and coal continued to be a significant part of Ontario's energy mix, it is likely that Toronto would not be where it is today with regard to its Climate Change and Clean Air Action Plan.

Another important factor that influences municipalities is the federal contribution primarily through the Green Municipal Fund (GMF). The GMF was established by the Government of Canada in 2000 and now has a $550 million endowment (Arnold 2008, 105). The FCM administers the fund and "provides low-interest loans and grants, builds capacity, and shares knowledge to support municipal governments and their partners in developing communities that are more environmentally, socially, and economically sustainable" (Arnold 2008, 105). The GMF funds a variety of municipal projects and is also a funder to the PCP program. According to the FCM, the GMF has financed or has committed to financing 934 green initiatives in more than 460 communities across Canada (FCM 2013). In addition, the GMF has funded projects that have reduced GHG emissions by approximately 339,000

tonnes per year (FCM 2013). As well, in 2011-2012, the GMF helped to fund three free webinars as part of the PCP program promoting knowledge sharing and best practices (FCM 2012, 13). The amount of GMF applications has become one of the indicators used by ICLEI Canada and the FCM to determine the success of its networks (Jackson 2013). Additionally, this funding is linked to milestone progress for municipalities (Jackson 2013). Depending on the availability of funding, there can be a lull in milestone progression (Jackson 2013).

Officially, however, the federal government has not "recognized municipalities as central partners in greenhouse gas reduction strategies" (Gore 2010, 27). Aside from the GMF, specific funding or support to municipalities for projects related to climate change mitigation or adaptation is limited. Regardless, the role of the federal government in providing funding is critical to the success of the PCP as well as provides a material benefit (i.e. the opportunity to apply for GMF funding) for municipalities to join. Yet, this relationship also affects the ability of the FCM to be a more forceful advocate for national action given that much of its funding comes from the national government. As such, the FCM must play a more diplomatic role when it comes to advocacy at a national level whereas, by comparison, ICLEI can be more forceful globally in pushing for climate action. Similarly, the U.S. Conference of Mayors via their Climate Protection Agreement has been more forceful in pushing for national government action on climate change (Gore and Robinson 2011, 25).

Some of these challenges are easier to overcome than others. Like countries, cities are not monolithic and have diverse interests, constraints, and priorities. The ability of networks to be adaptable and flexible to a variety of needs and without the ability to enforce compliance will remain long-term questions. Likewise, the relationship between local

governments and other levels of government will necessarily be subject to politics as well as funding, which can have an adverse effect on a network's efforts.

5.4 Evaluating Progress and Success

Evaluating progress and success is not a straightforward process when it comes to transnational environmental networks and their members. The term "success" can take on a variety of different meanings. However, there are five main areas that networks can be evaluated on as signs of progress or success: telling their story, the reporting of GHG emissions; membership growth and membership engagement; governance; and the relationship between networks and other international actors.

First, while awareness of networks may not have reached a broad audience in Canada, for their main constituency – i.e. local governments – there has been a concerted effort to tell and celebrate success stories. For instance, the FCM and ICLEI Canada recognize members in the PCP program publicly every time they complete a milestone (Jackson 2013). Since 2008, a National Measures Report has also been produced annually to report on progress (Jackson 2013). Similarly, the C40 recently introduced awards as a way to celebrate and promote local government achievement. On September 4th, 2013, the C40 in partnership with Siemens honoured ten cities at the inaugural City Climate Leadership Awards (C40 Cities 2013). In the press release, C40 Chair and New York Mayor Michael Bloomberg stated, "The C40 & Siemens City Climate Leadership Awards are dedicated to the idea that cities – by refusing to wait for action from national governments and international bodies – can lead the way in addressing the risks posed by climate change. Using innovative local approaches, cities are having an impact on climate change globally"

(C40 Cities 2013). In effect, these efforts are designed to highlight demonstrable success as well as provide a way to publicize the network and demonstrate their worth.

Second, many networks and organizations have cited figures regarding their GHG emissions and/or climate actions taken (see Table 4 below). Undeniably, the emission reduction numbers that the C40, the PCP, the CDP, as well as certain municipalities around the world have reported are impressive. Indeed, these actions to reduce emissions should be celebrated. However, evaluating these numbers broadly and attempting to draw comparisons and conclusions is not quite as easy.

Table 4 – Reported GHG emission reductions & climate change actions taken

	C40 Cities	Partners for Climate Protection (PCP) – FCM/ICLEI Canada	carbonn Cities Climate Registry (cCCR)	CDP Cities 2013: Summary Report on 110 Cities
GHG emission reductions	Estimated 1 billion tonnes per year by 2030 (2012)	Annual reductions of 1.8 million tonnes (2012)	At least 123 million tonnes per year by 2020 based on commitments of 163 cities (2013)	n/a
Climate change actions taken	4,734 collective actions (2012)	800 individual projects (2008-2012)	4,208 mitigation/adaptation actions/action plans from 414 cities (2013)	1,000 individual actions from 110 cities (2013)

Table 4 Description: This table provides some examples of reports of climate action/GHG emission reductions that have been made or are projected to be made with the year(s) of those claims in brackets.

One such problem that arrives is in fact somewhat similar to the debates that have occurred at UNFCCC negotiations regarding agreeing on benchmark years and reduction targets. For instance, joining the PCP program initially required municipalities to pledge to commit to a 20 percent reduction in corporate operations below 1994 levels and 6 percent below 1994 levels for the entire municipality within ten years of joining (Gore 2010, 32).

However, for municipalities who join now, the benchmark is now the year 2000 (FCM & ICLEI Canada n.d.). Similarly, the CCP began with member cities committing to reduce emissions by 20 percent, but then moved away from setting targets in favour of allowing members to determine their own goals as a way to appeal to more municipalities (Toly 2008, 350). It should be noted though that these targets were always voluntary and there were no consequences for missing a target.

Likewise, there has long been a conundrum in developing an appropriate methodology to document municipal emissions. For instance, according to the Carbon Disclosure Project, a not-for-profit organization that has collaborated with the C40 and works with cities (as well as businesses) to track and report on their GHG emissions, there has been no standard mechanism for reporting. In their 2012 report evaluating cities and their GHG emissions, it was found that 28 percent of reporting cities used the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, 17 percent used the International Emissions Analysis Protocol, 15 percent used the International Basic Standard for Community-scale GHG Emissions for Cities, while 37 percent used other methodologies (Carbon Disclosure Project 2012, 13). One of the key difficulties has been developing a methodology that tracks citywide GHG emissions that is comprehensive and shows sector-by-sector breakdowns as opposed to a simple per capita breakdown. According to the World Bank's Urban Development Unit, only 181 municipalities had such an inventory (C40 Cities 2013). However, a new methodology has been developed involving the World Bank, the UNEP, UN-Habitat, ICLEI, the World Resources Institute, and the C40 called the Global Protocol for Community Scale Emissions (GPC) with the aim of creating one global standard

for municipalities (C40 Cities 2013). Currently, 35 cities are using the GPC as a test run, but it is formally supposed to be launched in early 2014 (C40 Cities 2013).

While this will help with evaluating some of the numbers advocated by the FCM, ICLEI, the C40, and others, it is also becoming evident that reporting on emissions is becoming normalized. For the PCP program, reporting has long been the standard to strive for and is the fifth and final milestone ("Monitoring progress and reporting results") for municipalities to achieve (though few have reached this milestone to date) (ICLEI Canada n.d.). Globally, in 2010, at the World Mayors Summit on Climate Change in Mexico City, the Global Cities Covenant on Climate (A.k.a. "The Mexico City Pact") was launched and committed signatories to, among other things, introduce "the concept of globally measurable, reportable, and verifiable (MRV) local climate action" (WMCCC 2010). Article 4 of the Mexico City Pact calls for signatories to report their climate commitments to a newly created registry called the carbon*n* Cities Climate Registry (cCCR) and managed by ICLEI (WMCCC 2010). As of October 2013, 414 cities from 45 countries had reported "836 climate and energy commitments, 770 GHG inventories and 4,208 mitigation/adaptation actions/action plans at the cCCR (carbonn Cities Climate Registry 2013, 6). These numbers are substantial increases from 2012 in the number of reporting cities and local governments (232), the number of climate and energy commitments made (561) and the number of mitigation and adaptation actions taken (2,092) (carbonn Cities Climate Registry 2013, 6). Meanwhile, the CDP has seen the number of municipalities self-reporting their emissions rise from 48 in 2011 to 73 in 2012 (Carbon Disclosure Project 2012, 3 & 7). Of the 73 that reported, 45 were C40 members and the goal is to increase C40 disclosure to the CDP to 100% (Carbon Disclosure Project 2012, 3 & 7). In addition, specific to the C40, of the 4,734

climate actions that members have taken, 80% occurred after having joined the network (C40 Cities 2012, 2).

These figures are key indicators of success. It is not just that municipalities are taking actions to reduce their emissions, but that they are volunteering in greater numbers to take stock of their emissions and share that information with others. This information is useful not only for the municipality that conducts the GHG inventory, but also to others within the network so that they can compare and share policies to reduce emissions. The types of policy learning, that have been highlighted earlier in this paper as important to the success of networks, become even more valuable when methodologies are consistent and embraced by many.

Third, all networks have seen their membership grow and become more diverse. The increase in the number of members of all networks has further helped to legitimize and strengthen these networks as well as their claims of being the voice for local governments. On the engagement front, networks have done a better job at facilitating interactions as well as responding to the needs of municipalities. As discussed earlier, adaptation has been a growing concern for many municipalities and networks have begun to respond. While this remains a challenge, there are also signs of success. As noted by the CDC, adaptation measures at a national level tend to be slow and abstract (Pool 2013). Yet, ICLEI with the Resilient City program and ICLEI Canada with the BARC program each have some form of adaptation program or are dedicated to adaptation as is the case with the CDC. Meanwhile, the C40 recently hired a Director of Water and Adaptation Initiative to work on adaptation issues (Pool 2013). More broadly, networks such as ICLEI Canada have themselves noted that municipalities have increasingly been highlighting the possibility of co-benefits as

reasons for joining a network (Jackson 2013). Overall, this growth can be said to be a reflection not only on the commitment of municipalities to take action on climate change, but also on the appearance of the networks themselves as being a valuable and worthwhile investment for their members.

Aside from the benefits that arise from joining one or more of these networks, there has also been a change in the manner in which membership applications have occurred. This suggests a norm creation and reflects on the perception of these networks as permanent and having a degree of authority on climate change. For the PCP network, there has been an increase in neighbouring municipalities joining collectively as a group (Jackson 2013). For the C40 and the CDC, new membership rules are intended to set a clear process to allow more municipalities (who meet the requirements) to apply to join their network than before when membership was more strictly limited. This echoes the work of other authors (such as Gore and Robinson 2011) who have argued that a norm may be forming led by early adopter and large cities and followed by surrounding municipalities. However, now the growth in membership, particularly as it concerns the PCP program, suggests this norm has gone beyond the large cities and early adopters. In sum, all the networks discussed in this paper have established themselves (all have been in existence for at least five years) and seem firmly entrenched and unlikely to disappear over time. Rather, it would appear that there is still much potential for membership growth growing forward.

Fourth, from a governance perspective, more of an effort has been made to be more representative and inclusive though there are still questions regarding to what extent this has taken place. In theory, networks are supposed to be "collaborative, non-hierarchical, flexible, and potentially inclusive insofar as they connect participants who otherwise may not interact

(Gore 2010, 35). However, in practice, power dynamics may still exist and inclusiveness can be difficult to define. For example, a survey conduced by Lee and van de Meene of C40 members, showed that no one looked to the four African members: Addis Ababa; Cairo; Lagos; and Johannesburg as sources of climate change policy learning whereas Chicago, New York, Portland, Seattle, and London were identified as leaders (Lee and van de Meene 2012, 211). Boutelegier also notes one case where a smaller European city was presenting at a C40 workshop on their policy for encouraging citizens to travel by bicycle instead of a car as a best practice model. However, this model was not transferable to all as one official from an African mega-city noted due its geographical features as well as the status symbol of a bicycle being associated with poverty (Boutelegier 2009, 20). Yet, it was the European city that was given the opportunity to present as a "best practice" (Boutelegier 2009, 20).

Nonetheless, ICLEI and the C40 have strived for inclusiveness and balance and indeed there has been a move toward ensuring these goals. For example, ICLEI has moved away from playing a central role in being the lead on the CCP to devolving power to national or regional arms (such as ICLEI Canada) to manage the program as best fits their regional needs. In addition, both ICLEI and the C40 have made a point of holding workshops around the world. Likewise, the creation of the CDC is emblematic of the ability of members of the C40 to pursue what applies to them independent of the main C40 gatherings. Indeed, there has also been an effort to develop the C40 into a network that allows for specialization into particular focus areas. This began in 2008 with the creation of the CDC. This was followed with the 4th Roundtable in Chicago in 2012, and the announcement of the creation of two more C40 city networks: the Green Growth Network and the Sustainable Infrastructure

Finance Network (C40 Cities 2012). As well, there are also plans to launch networks on green infrastructure and urban drainage and adaptation (Carbon Disclosure Project 2012, 67).

It could still be argued though that issues of power are inherently involved in these networks in other ways such as by the fact that the all of these networks continue to be hosted or led by cities from the Global North. The C40 Secretariat is located in London, the CDC is based out of Rotterdam, the Green Growth Network is chaired by Copenhagen, while the Sustainable Finance Network is co-chaired by Chicago and Basel. Similarly, ICLEI's World Secretariat is located in Bonn, Germany (though there are regional offices around the world). Indeed, while this may be an issue for some, it is important to note that across networks, the emphasis on the ability of members to choose which workshops, webinars, or networks that they attend or belong to or what actions they commit to are still left up to individual members.

Lastly, there has been a steady increase in both advocacy efforts of ICLEI and the C40 as well as in their partnerships with other organizations and agencies. As has already been noted, both ICLEI and the C40 have had a presence at international forums discussing climate change and continue to advocate for the inclusion of local governments in negotiations. Of the two though, it is evident that ICLEI plays a greater role. At the UNFCCC alone, ICLEI has made eight interventions, three submissions, held four official side events at meetings, and produced eight documents in the form of declarations and offering perspectives on meetings (ICLEI 2008). At the same time, ICLEI has also been developing partnerships and seeking a greater part globally in other arenas. In October 2009, ICLEI became an accredited observer organization to the IPCC and submitted a "Scoping Document" to the Fifth Assessment Report of the IPCC. As a result, the Fifth Assessment

Report is expected to have "significant sections on subnational actions" (ICLEI 2008). According to their website, ICLEI currently has 46 official partnerships (one of which is with the C40) ranging from local government networks to UN agencies to business associations to non-profits (ICLEI n.d.).

Moreover, ICLEI was involved in the creation of the World Mayors Council on Climate Change (WMCCC) in December 2005 (ICLEI 2008). The WMCCC is an alliance of over 80 former or current mayors or equivalent leaders of municipal governments (WMCCC 2010). The main purpose of the WMCCC is to "advocate for enhanced engagement of local governments as governmental stakeholders in multilateral efforts addressing climate change and related issues of global sustainability (WMCCC 2010). While an independent organization, WMCCC is listed as one of two "programs/initiatives" that ICLEI supports and is physically located at the ICLEI World Secretariat in Bonn, Germany. The key point here is that ICLEI has helped to create another network or organization, which can be said to be a sign of its growing influence and authority on local government issues as they relate to climate change.

While advocacy is a strong component of the C40 efforts, as mentioned earlier in this paper and evidenced by their involvement at UNFCCC events, more of a focus has been on strengthening their own network and pursuing specific partnerships. In comparison to ICLEI then and according to their website, the C40 has six official partnerships (C40 Cities 2011). These partners are either funders (i.e. the Clinton Climate Initiative or Bloomberg Philanthropies) or organizations or networks that are helping to develop a common methodology framework for cities, develop better reporting, and facilitate information sharing (i.e. The World Bank, ICLEI, the CDP, and ARUP). To that effect, these

partnerships have already led to the adoption of a global methodology for cities to track their GHG emissions as well as helped to lend credibility to the C40 as leaders on climate action for local governments.

In sum, improvements can be seen in how information is shared, how GHG emission reporting is done and will be done in the future, how membership has changed and continues to grow, how opportunities are available for all members to share and engage with one another, and how advocacy efforts have increased as have the number of partnerships with others. Though the networks each make claims regarding specific emissions reductions, there are other signs of success that speak to the idea that these transnational environmental networks are important global actors and benefit their members.

Chapter Six – Implications and Conclusions

If necessary mitigation and adaptation efforts to the effects of climate change are to occur, cities and local governments will have to be at the forefront and it is through the existence of networks that this can be made possible. Their actions alone are not enough to prevent climate change, but neither can they be ignored nor discounted. The challenges that climate change poses to cities are unique and affect billions of people.

As a result of this paper, a number of contributions to the discussion around local governments, transnational environmental networks, and climate change can be seen. First, one of the findings of this paper was to track and analyze the evolution of ICLEI and the C40 as well as the PCP program in Canada from small networks with little influence to large

networks that represent more people and more GHG emissions and, at the same time, consist of more programs, resources, and relationships to address climate change concerns.

Another finding has shown how climate governance requires a polycentric or multilevel approach to better reflect the importance and contributions of local governments to the issue. Transnational environmental networks are a reflection of the desire not only of local governments around the world to have an increased voice, but also to learn from one another and improve the livelihood of their inhabitants. They are transcending borders, national governments, and traditional international politics to offer a positive alternative to realist and neoliberal visions of global climate governance. Recognizing that climate governance requires a polycentric systems approach allows for the understanding that things have and are changing. The rise of local governments in the discourse is as much a reflection of a movement as it is a new norm.

A third finding has shown that these networks face a number of challenges in determining how they are able to maintain engagement and attract funding, while fulfilling their lofty rhetoric of being able to reduce significant emissions. These networks are still young and evolving and it is evident that the model is not perfect. Perhaps inherently, these networks, given their voluntary nature, will continue to have difficulty ensuring membership engagement. Likewise, the struggle to get recognition and support from higher levels of government is ongoing.

A fourth finding has shown that in Canada, awareness of local government networks is low. While awareness of climate change as an issue in Canada is generally quite high and while Canadian municipalities are showing greater interest in networks, other actors such as

the media and national Canadian ENGOs continue to focus primarily on the efforts of other levels of governance for climate action.

Lastly, a fifth finding has shown that there are also clear signs of progress that goes beyond rhetoric and embraces tangible solutions such as the development of a standard methodology for tracking GHG emissions. As well, adaptation concerns and programs appear to be growing. There is an increasing emphasis from networks to provide support to municipalities that are looking for help to prepare their municipalities for the effects of climate change. Meanwhile, the number of partnerships and agreements between local government networks and international agencies, non-profits, foundations, and businesses is a further sign of legitimacy.

Collectively, this paper has added to the discourse on the subject of climate change governance within the discipline of international relations and has explained the need for local governments to receive greater attention and be seen as leaders.

Along the way in preparing the research for this paper, a few challenges emerged. Chief among them was the difficulty in arranging interviews. Due to time constraints, limited resources, and scheduling issues, only a small number of interviews were conducted. While the interviews that were completed were useful and informative, a more complete picture of the issues could have been achieved through further interviews. Similarly, the overall state of the research is still fairly new and therefore being able to make comparisons about specific climate actions undertaken in one network or one city as compared to another was not easy to do nor was it feasible given time constraints.

Indeed, this is a complex subject and there is much more to explore. For instance, what are the differences between cities from the Global North and those in the Global South in terms of their involvement within networks? Do differences in the type or form of local government affect decision-making within a network or even to join a network? How can different mitigation and adaptation reporting mechanisms be better understood across networks and cities? These are all important questions that could be asked and studied in their own right. With regard to Canada, more too could be done to better understand the domestic situation as compared to other jurisdictions. This could be achieved by looking into provincial and regional networks within Canada and by comparing the PCP program to one from another country such as the United States and the Conference of Mayors Climate Protection Agreement.

More broadly, there needs to be a greater awareness of the role that local governments can and do play in addressing climate change. The story of local governments working together on climate change is one that more people should know about. This is important not just from a feel good perspective, but from an ownership perspective. In other words, in regard to arguably the most important global issue of the 21st century, citizens should own the idea that the actions that their local government takes (or does not take) matter. This is something that can only occur through further scholarship as well as the continued growth and evolution of transnational environmental networks.

In Canada, any national climate change plan should recognize and support the role that local governments have to play. Despite a clear disconnect when it comes to awareness from the media or ENGOs, many municipalities have been early adopters of climate change

mitigation and/or adaptation policies. They have shown a willingness to lead, but are still somewhat dependent on the will of federal and/or provincial governments to support them.

Finally, transnational environmental networks must continue to push for local government action. Climate change is too important to leave – whether deliberately or subconsciously – to others. It is a collective responsibility and local governments around the world are increasingly showing that they not only recognize this, but also are willing to lead.

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